

-PRIOR ART-

FIG.1

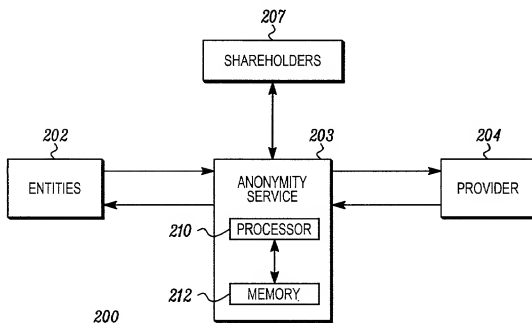


FIG.2

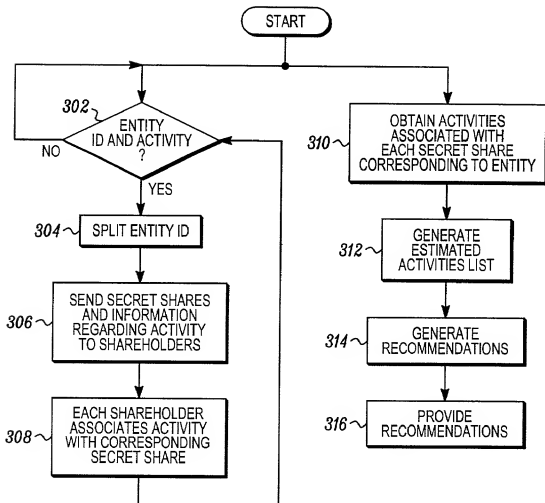


FIG.3

09976637.101201

| | 1 | 2 | 3 | 4 | 5 | | | |
|------|----------------------|----------------|----------------|----------------|-----------------|--------|---|---|
| USER | SECRET SHARES VALUES | | | | | EVENTS | | |
| 1 | S ₃ | S ₅ | S ₇ | S ₅ | S ₁₀ | D | J | L |
| 2 | S ₁ | S ₂ | S ₄ | S ₆ | S ₉ | E | J | T |
| 3 | S ₂ | S ₂ | S ₆ | S ₈ | S ₁₀ | J | L | P |
| 4 | S ₁ | S ₃ | S ₅ | S ₇ | S ₁₀ | J | O | P |
| 5 | S ₃ | S ₅ | S ₇ | S ₅ | S ₁₀ | F | G | M |
| 6 | S ₂ | S ₂ | S ₅ | S ₈ | S ₉ | C | D | N |
| 7 | S ₁ | S ₃ | S ₄ | S ₆ | S ₇ | A | R | S |
| 8 | S ₂ | S ₃ | S ₇ | S ₈ | S ₉ | J | K | L |

FIG.4

| SHARE VALUE | SHAREHOLDER 1 PROFILES | | | | | | | | | | | | | | | | | | |
|----------------|---------------------------|--|---|---|--|---|---|---|---|---|---|---|---|---|--|---|---|---|--|
| S ₁ | A | | | E | | | | J | | | | | O | P | | R | S | T | |
| S ₂ | | | C | D | | | | J | K | L | | N | | P | | | | | |
| S ₃ | | | | D | | F | G | | J | | L | M | | | | | | | |

FIG.5

| SHARE VALUE | SHAREHOLDER 2 PROFILES | | | | | | | | | | | | | | | | | | |
|----------------|---------------------------|--|---|---|---|---|---|--|---|---|---|---|---|---|---|--|---|---|---|
| S ₂ | | | C | D | E | | | | J | | L | | N | | P | | | | T |
| S ₃ | A | | | | | | | | J | K | L | | | O | P | | R | S | |
| S ₅ | | | | D | | F | G | | J | | L | M | | | | | | | |

FIG.6

09976637-101201

| SHARE VALUE | SHAREHOLDER 3 PROFILES | | | | | | | | | | | | | | | | | | |
|----------------|---------------------------|--|---|---|--|---|---|---|---|---|---|---|---|---|--|--|---|---|---|
| S ₄ | A | | | E | | | | J | | | | | | | | | R | S | T |
| S ₅ | | | C | D | | | | J | | | | N | O | P | | | | | |
| S ₆ | | | | | | | | J | | L | | | | P | | | | | |
| S ₇ | | | | D | | F | G | | J | K | L | M | | | | | | | |

FIG.7

| SHARE VALUE | SHAREHOLDER 4 PROFILES | | | | | | | | | | | | | | | | | | |
|----------------|---------------------------|--|---|---|---|---|---|--|---|---|---|---|---|---|---|--|---|---|---|
| S ₅ | | | | D | | F | G | | J | | L | M | | | | | | | |
| S ₆ | A | | | | E | | | | J | | | | | | | | R | S | T |
| S ₇ | | | | | | | | | J | | | | | O | P | | | | |
| S ₈ | | | C | D | | | | | J | K | L | | N | | P | | | | |

FIG.8

| SHARE VALUE | SHAREHOLDER 5 PROFILES | | | | | | | | | | | | | | | | | | |
|-----------------|---------------------------|--|---|---|---|---|---|--|---|---|---|---|---|---|---|--|---|---|---|
| S ₇ | A | | | | | | | | | | | | | | | | R | S | |
| S ₈ | | | | | | | | | | | | | | | | | | | |
| S ₉ | | | C | D | E | | | | J | K | L | | N | | | | | | T |
| S ₁₀ | | | | D | | F | G | | J | | L | M | | O | P | | | | |

FIG.9

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USER 1:

| | | | | | | | | | | | | | | | | | | | |
|--------------------------|-----------------|--|--|--|---|---|---|--|---|---|---|---|---|---|--|--|--|--|--|
| SHAREHOLDER ₁ | S ₃ | | | | D | F | G | | J | L | M | | | | | | | | |
| SHAREHOLDER ₂ | S ₅ | | | | D | F | G | | J | L | M | | | | | | | | |
| SHAREHOLDER ₃ | S ₇ | | | | D | F | G | | J | K | L | M | | | | | | | |
| SHAREHOLDER ₄ | S ₅ | | | | D | F | G | | J | L | M | | | | | | | | |
| SHAREHOLDER ₅ | S ₁₀ | | | | D | F | G | | J | L | M | | O | P | | | | | |

FIG.10

USER 2:

| | | | | | | | | | | | | | | | | | | | |
|--------------------------|----------------|---|---|---|---|--|--|--|---|---|---|---|---|---|--|---|---|---|--|
| SHAREHOLDER ₁ | S ₁ | A | | | E | | | | J | | | | O | P | | R | S | T | |
| SHAREHOLDER ₂ | S ₂ | | C | D | E | | | | J | L | | N | P | | | | | T | |
| SHAREHOLDER ₃ | S ₄ | A | | | E | | | | J | | | | | | | R | S | T | |
| SHAREHOLDER ₄ | S ₆ | A | | | E | | | | J | | | | | | | R | S | T | |
| SHAREHOLDER ₅ | S ₉ | | C | D | E | | | | J | K | L | N | | | | | | T | |

FIG.11

102FOT*2E9Z660

USER 3:

| | | | | | | | | | | | | | | | | | |
|--------------------------|-----------------|--|--|---|---|---|---|---|--|---|---|---|---|---|--|--|---|
| SHAREHOLDER ₁ | S ₂ | | | C | D | | | | | J | K | L | N | P | | | |
| SHAREHOLDER ₂ | S ₂ | | | C | D | E | | | | J | L | L | N | P | | | T |
| SHAREHOLDER ₃ | S ₆ | | | | | | | | | J | L | L | | P | | | |
| SHAREHOLDER ₄ | S ₈ | | | | | | | | | J | K | L | N | P | | | |
| SHAREHOLDER ₅ | S ₁₀ | | | | | D | F | G | | J | L | M | O | P | | | |

FIG.12

USER 4:

| | | | | | | | | | | | | | | | | | | |
|--------------------------|-----------------|---|--|---|---|---|---|---|--|---|---|---|---|---|---|---|---|---|
| SHAREHOLDER ₁ | S ₁ | A | | | | | | | | J | | | | O | P | R | S | T |
| SHAREHOLDER ₂ | S ₃ | A | | | | | | | | J | K | L | | O | P | R | S | |
| SHAREHOLDER ₃ | S ₅ | | | C | D | | | | | J | | | N | O | P | | | |
| SHAREHOLDER ₄ | S ₇ | | | | | | | | | J | | | | O | P | | | |
| SHAREHOLDER ₅ | S ₁₀ | | | | | D | F | G | | J | L | M | O | P | | | | |

FIG.13

| | | | | | | | | | | |
|--------------------------|-----------------|--|---|---|---|---|---|---|---|---|
| SHAREHOLDER ₁ | S ₃ | | D | F | G | J | L | M | | |
| SHAREHOLDER ₂ | S ₅ | | D | F | G | J | L | M | | |
| SHAREHOLDER ₃ | S ₇ | | D | F | G | J | K | L | | |
| SHAREHOLDER ₄ | S ₅ | | D | F | G | J | L | M | | |
| SHAREHOLDER ₅ | S ₁₀ | | D | F | G | J | L | M | O | P |

USER 6:

| | | | | | | | | |
|--------------------------|----------------|---|---|---|---|---|---|---|
| SHAREHOLDER ₁ | S ₂ | C | D | J | K | L | N | P |
| SHAREHOLDER ₂ | S ₂ | C | D | E | J | L | N | P |
| SHAREHOLDER ₃ | S ₅ | C | D | C | J | | N | O |
| SHAREHOLDER ₄ | S ₈ | C | D | | J | K | L | N |
| SHAREHOLDER ₅ | S ₉ | C | D | E | J | K | L | M |
| | | | | | | | | T |

FIG.15

TOP SECRET 2892660

USER 7:

| | | | | | | | | | | | | | | | | | | | | |
|--------------------------|----------------|---|--|--|--|---|--|--|--|---|---|---|--|--|---|---|--|---|---|---|
| SHAREHOLDER ₁ | S ₁ | A | | | | E | | | | J | | | | | O | P | | R | S | T |
| SHAREHOLDER ₂ | S ₃ | A | | | | | | | | J | K | L | | | O | P | | R | S | |
| SHAREHOLDER ₃ | S ₄ | A | | | | E | | | | J | | | | | | | | R | S | T |
| SHAREHOLDER ₄ | S ₆ | A | | | | E | | | | J | | | | | | | | R | S | T |
| SHAREHOLDER ₅ | S ₇ | A | | | | | | | | | | | | | | | | R | S | |

FIG.16

USER 8:

| | | | | | | | | | | | | | | | | | | | | |
|--------------------------|----------------|---|--|--|--|---|---|---|---|---|--|--|---|---|---|---|---|---|---|---|
| SHAREHOLDER ₁ | S ₂ | | | | | C | D | | | | | | J | K | L | | N | | P | |
| SHAREHOLDER ₂ | S ₃ | A | | | | | | | | | | | J | K | L | | O | P | | |
| SHAREHOLDER ₃ | S ₇ | | | | | | D | | F | G | | | J | K | L | M | | | | |
| SHAREHOLDER ₄ | S ₈ | | | | | C | D | | | | | | J | K | L | | N | | P | |
| SHAREHOLDER ₅ | S ₉ | | | | | C | D | E | | | | | J | K | L | | N | | | T |

FIG.17

| USER | ESTIMATED ACTIVITIES | | | | | |
|------|----------------------|----------|----------|----------|----------|----------|
| 1 | E | <i>F</i> | <i>G</i> | J | L | <i>M</i> |
| 2 | E | J | T | | | |
| 3 | J | L | P | | | |
| 4 | J | O | P | | | |
| 5 | <i>D</i> | <i>F</i> | <i>G</i> | <i>J</i> | <i>L</i> | <i>M</i> |
| 6 | C | D | <i>J</i> | N | | |
| 7 | A | R | S | | | |
| 8 | J | K | L | | | |

FIG.18

| | 1 | 2 | 3 | 4 | 5 | |
|------|----------------------|----------------|----------------|----------------|-----------------|--------|
| USER | SECRET SHARES VALUES | | | | | EVENTS |
| 1 | S ₃ | S ₅ | S ₇ | S ₅ | S ₁₀ | D K L |
| 2 | S ₁ | S ₂ | S ₄ | S ₆ | S ₉ | E J T |
| 3 | S ₂ | S ₂ | S ₆ | S ₈ | S ₁₀ | J L P |
| 4 | S ₁ | S ₃ | S ₅ | S ₇ | S ₁₀ | F O P |
| 5 | S ₃ | S ₅ | S ₇ | S ₅ | S ₁₀ | F G M |
| 6 | S ₂ | S ₂ | S ₅ | S ₈ | S ₉ | C D N |
| 7 | S ₁ | S ₃ | S ₄ | S ₆ | S ₇ | A R S |
| 8 | S ₂ | S ₃ | S ₇ | S ₈ | S ₉ | J K L |

FIG.19

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| SHARE VALUE | SHAREHOLDER 1 PROFILES | | | | | | | | | | | | | | | |
|----------------|---------------------------|--|---|---|---|---|---|--|---|---|---|---|---|---|---|-------|
| S ₁ | A | | | | E | F | | | J | | | | | O | P | R S T |
| S ₂ | | | C | D | | | | | J | K | L | | N | | P | |
| S ₃ | | | | D | | F | G | | | K | L | M | | | | |

FIG.20

| SHARE VALUE | SHAREHOLDER 2 PROFILES | | | | | | | | | | | | | | | |
|----------------|---------------------------|--|---|---|---|---|---|--|---|---|---|---|---|---|---|-----|
| S ₂ | | | C | D | E | | | | J | | L | | N | | P | T |
| S ₃ | A | | | | | F | | | J | K | L | | | O | P | R S |
| S ₅ | | | | D | | F | G | | | K | L | M | | | | |

FIG.21

| SHARE VALUE | SHAREHOLDER 3 PROFILES | | | | | | | | | | | | | | | |
|----------------|---------------------------|--|---|---|---|---|---|--|---|---|---|---|---|---|---|-------|
| S ₄ | A | | | | E | | | | J | | | | | | | R S T |
| S ₅ | | | C | D | | F | | | | | | | N | O | P | |
| S ₆ | | | | | | | | | J | | L | | | | P | |
| S ₇ | | | | D | | F | G | | | J | K | L | M | | | |

FIG.22

0976637.101201

| SHARE VALUE | SHAREHOLDER 4 PROFILES | | | | | | | | | | | | | | | |
|----------------|---------------------------|--|---|---|---|---|---|--|--|---|---|---|---|---|---|---|
| S ₅ | | | | D | | F | G | | | | K | L | M | | | |
| S ₆ | A | | | | E | | | | | J | | | | | R | S |
| S ₇ | | | | | | F | | | | | | | | O | P | |
| S ₈ | | | C | D | | | | | | J | K | L | | N | P | |

FIG.23

| SHARE VALUE | SHAREHOLDER 5 PROFILES | | | | | | | | | | | | | | | |
|-----------------|---------------------------|--|---|---|---|---|---|--|---|---|---|---|---|---|---|---|
| S ₇ | A | | | | | | | | | | | L | | | | R |
| S ₈ | | | | | | | | | | | | | | | | S |
| S ₉ | | | C | D | E | | | | J | K | L | | N | | | T |
| S ₁₀ | | | | D | | F | G | | J | K | L | M | | O | P | |

FIG.24

09976637.101201

| | | | | | | | |
|--------------------------|-----------------|---|---|---|---|---|---|
| | S ₃ | D | F | G | K | L | M |
| SHAREHOLDER ₁ | | | | | | | |
| | S ₅ | D | F | G | K | L | M |
| SHAREHOLDER ₂ | | | | | | | |
| | S ₇ | D | F | G | J | K | L |
| SHAREHOLDER ₃ | | | | | | | |
| | S ₉ | D | F | G | K | L | M |
| SHAREHOLDER ₄ | | | | | | | |
| | S ₁₀ | D | F | G | J | K | L |
| SHAREHOLDER ₅ | | | | | O | P | |

FIG. 29

| | | | | | | | | | | | | | |
|--------------------------|----------------|--|---|---|---|--|--|---|---|---|---|---|---|
| SHAREHOLDER ₁ | S ₂ | | C | D | | | | J | K | L | N | P | |
| SHAREHOLDER ₂ | S ₂ | | C | D | E | | | J | L | | N | P | T |
| SHAREHOLDER ₃ | S ₅ | | C | D | F | | | | | | N | O | P |
| SHAREHOLDER ₄ | S ₈ | | C | D | | | | J | K | L | N | P | |
| SHAREHOLDER ₅ | S ₉ | | C | D | E | | | J | K | L | M | N | T |

FIG.30

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USER 7:

| | | | | | | | | | | | | | | | | | | |
|--------------------------|----|---|--|--|---|---|--|--|---|---|---|--|---|---|--|---|---|---|
| SHAREHOLDER ₁ | S1 | A | | | E | F | | | J | | | | O | P | | R | S | T |
| SHAREHOLDER ₂ | S3 | A | | | | F | | | J | K | L | | O | P | | R | S | |
| SHAREHOLDER ₃ | S4 | A | | | | E | | | J | | | | | | | R | S | T |
| SHAREHOLDER ₄ | S6 | A | | | | E | | | J | | | | | | | R | S | T |
| SHAREHOLDER ₅ | S7 | A | | | | | | | | | | | | | | R | S | |

FIG.31

USER 8:

| | | | | | | | | | | | | | | | | | | |
|--------------------------|----|---|--|---|---|---|---|--|---|---|---|---|---|---|---|--|---|---|
| SHAREHOLDER ₁ | S2 | | | C | D | | | | J | K | L | | N | | P | | | |
| SHAREHOLDER ₂ | S3 | A | | | | F | | | J | K | L | | | O | P | | R | S |
| SHAREHOLDER ₃ | S7 | | | | D | F | G | | J | K | L | M | | | | | | |
| SHAREHOLDER ₄ | S8 | | | C | D | | | | J | K | L | | N | | P | | | |
| SHAREHOLDER ₅ | S9 | | | C | D | E | | | J | K | L | | N | | | | | T |

FIG.32

| USER | ESTIMATED ACTIVITIES |
|------|----------------------------------|
| 1 | D <i>F</i> <i>G</i> K L <i>M</i> |
| 2 | E J T |
| 3 | J L P |
| 4 | F O P |
| 5 | <i>D</i> F G <i>K</i> L <i>M</i> |
| 6 | C D N |
| 7 | A R S |
| 8 | J K L |

FIG.33

09976637-101201